

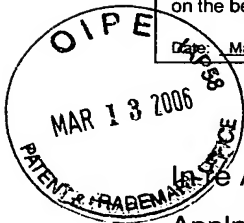
1621

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Date: March 7, 2006 Name: Carolyn Beason-Wright Signature: Carolyn Beason-Wright

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor: Appn. of: Armando Pombeiro, et al.

Appn. No.: 10/532,387

Filed: November 4, 2005

For: VANADIUM CATALYSTS AND PROCESS
FOR THE DIRECT CONVERSION OF
METHANE INTO ACETIC ACID

Examiner: Unknown

Art Unit: 1621

Attorney Docket No: 10866/004

Mail Stop Amendment
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL

Sir:

Attached is/are:

- ☒ INFORMATION DISCLOSURE STATEMENT
☒ Return Receipt Postcard

Fee calculation:

- ☒ No additional fee is required.
☐ Small Entity.
☐ An extension fee in an amount of \$_____ for a _____-month extension of time under 37 C.F.R. § 1.136(a).
☐ A petition or surcharge in an amount of \$_____ under 37 C.F.R. § 1.16(e).
☐ An additional filing fee has been calculated as shown below:

					Small Entity			Not a Small Entity	
	Claims Remaining After Amendment		Highest No. Previously Paid For	Present Extra	Rate	Add'l Fee	or	Rate	Add'l Fee
Total		Minus			x \$25=			x \$50=	
Indep.		Minus			x 100=			x \$200=	
First Presentation of Multiple Dep. Claim					+\$180=			+\$360=	
					Total	\$		Total	\$

Fee payment:

- ☐ A check in the amount of \$_____ to cover the above-identified fee(s) is enclosed.
☐ Please charge Deposit Account No. 23-1925 in the amount of \$_____. A copy of this Transmittal is enclosed for this purpose.
☐ Payment by credit card in the amount of \$_____ (Form PTO-2038 is attached).
☒ The Director is hereby authorized to charge payment of any additional filing fees required under 37 CFR § 1.16 and any patent application processing fees under 37 CFR § 1.17 associated with this paper (including any extension fee required to ensure that this paper is timely filed), or to credit any overpayment, to Deposit Account No. 23-1925.

Respectfully submitted,

March 7, 2006

Date

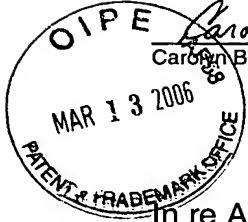
Lawrence A. Steward
Lawrence A. Steward (Reg. No. 32,309)

Certificate Under 37 CFR 1.8(a)

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on March 7, 2006

Carolyn Beason-Wright
Carolyn Beason-Wright



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Appln. of: Armando Pombeiro, et al.

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Examiner: Unknown

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Attorney Docket No: 10866/004

INFORMATION DISCLOSURE STATEMENT

MAIL STOP AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In accordance with the duty of disclosure under 37 C.F.R. §1.56 and §§1.97-1.98, Applicant hereby cites the reference(s) listed on the enclosed Forms PTO/SB/08A and PTO/SB/08B. A copy of each listed reference for which a copy is required under 37 C.F.R. §1.98(a)(2) is also enclosed. Applicant respectfully requests the Examiner's consideration of the reference(s) and entry thereof into the record of this application.

By submitting this Statement, Applicant is attempting to fully comply with the duty of candor and good faith mandated by 37 C.F.R. §1.56. As such, this Statement is not intended to constitute an admission that any of the enclosed references, or other information referred to therein, constitutes "prior art" or is otherwise "material to patentability," as that phrase is defined in 37 C.F.R. §1.56(a).

Applicant has calculated no fee to be due upon filing this Statement. However, the Director is authorized to charge any fee deficiency associated with the filing of this Statement to a deposit account, as authorized in the accompanying Transmittal.

Respectfully submitted,

March 7, 2006
Date


Lawrence A. Steward (Reg. No.32,309)

Approved for use through 10/31/2002, OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <div style="border: 1px solid black; border-radius: 50%; width: 100px; height: 100px; display: flex; align-items: center; justify-content: center; margin: 10px auto;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);"> OIPE (use as many sheets as necessary) </div> </div>				Complete if Known	
				Application Number	10/532,387
				Filing Date	November 4, 2005
				First Named Inventor	Armando Pombeiro, et al.
				Group Art Unit	1621
				Examiner Name	Unknown
				Attorney Docket Number	10866/004
Sheet	15	of	3		

U.S. PATENT DOCUMENTS

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FOREIGN PATENT DOCUMENTS

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EXAMINER SIGNATURE		DATE CONSIDERED	
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¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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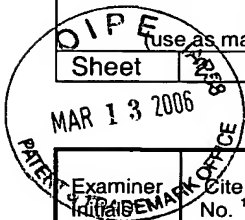
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Substitute for form 1449B/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT		Application Number	10/532,387
		Filing Date	November 4, 2005
		First Named Inventor	Armando Pombeiro, et al.
		Group Art Unit	1621
		Examiner Name	Unknown
		Attorney Docket Number	10866/004
(use as many sheets as necessary)			
Sheet	2	of	3



OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTES), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	2	M. ASADULLA, Y. TANIGUCHI, T. KITAMURA, Y. FUJIWARA, "One-step carboxylation reaction of saturated hydrocarbons with CO by CO(OAc) ₂ catalyst under mild conditions," <i>Applied Catalysis A: General</i> 194-195 (2000) 443-452	
	3	MOHAMMAD ASADULLAH, TSUGIO KITUMURA and YUZO FUJIWARA, "CaCl ₂ -Catalyzed Functionalization of Saturated Hydrocarbons with CO to Carboxylic Acids and Esters," <i>Journal of Catalysis</i> 195, 180-186 (2000)	
	4	ROBERT E. BERRY, ELAINE M. ARMSTRONG, ROY L. BEDDOES, DAVID COLLISON, S. NIGAR ERTOK, MADELEINE HELLIWELL and C. DAVID GARNER, "The Structural Characterization of Amavadin," <i>Angew. Chem. Int. Ed.</i> 1999, 38, No. 6	
	5	P. CARAVAN, LUCIO GELMINI, NICHOLAS GLOVER, F. GEOFFREY HERING, HUALI LI, JOHN H. MCNEILL, STEEN J. RETTIG, IKA A. SETYAWATI, ED SHUTER, YAN SUN, ALAN S. TRACEY, VIOLET G. YUEN and CHRIS ORVIG, "Reaction Chemistry of BMOV, Bis(maltolato)oxovanadium(IV)-A Potent Insulin Mimetic Agent," <i>J. Am. Chem. Soc.</i> 1995, 117, 12759-12770	
	6	CHEIN-TEIN CHEN, JEN-HUANG KUO, CHUN-HSIN LI, N.B. BARHATE, SANG-WEN HON, TAI-WEI LI, SHI-DEH CHAO, CHIA-CHENG LIU, YING-CHIEH LI, I-HSIN CHANG, JIN-SHENG LIN, CHIN-JING LIU and Y-CHEN CHOU, "Catalytic Nucleophilic Acyl Substitution of Anhydrides by Amphoteric Vanadyl Triflate," <i>American Chemical Society</i> , 2001	
	7	DEBBIE C. CRANS, HAOJIANG CHEN, OREN P. ANDERSON, and MARY M. MILLER, "Vanadium(V)-Protein Model Studies: Solid-State and Solution Structure," <i>J. Am. Chem. Soc.</i> 1993, 115, 6769-6776	
	8	DEBBIE C. CRANS, JASON J. SMEE, ERNESTAS GAIDAMAUSKAS, and LUQIN YANG, "The Chemistry and Biochemistry of Vanadium and the Biological Activities Exerted by Vanadium Compounds," <i>Chem. Rev.</i> 2004, 104, 849-902	
	9	BRENT J. HAMSTRA, ANDREW L. P. HOUSEMAN, GERARD J. COLPAS, JEFF W. KAMPF, RUSSELL LOBRUTTO, WAYNE D. FRASCH, and VINCENT L. PECORARO, "Structural and Solution Characterization of Mononuclear Vanadium(IV) Complexes that Help to Elucidate the Active Site Structure of the Reduced Vanadium Haloperoxidases," <i>Inorg. Chem.</i> 1997, 36, 4866-4874	
	10	GALINA V. NIZOVA, GEORG SUSS-FINK, SANDRINE STANISLAS, and GEORGIY B. SHUL'PIN, "Carboxylation of methane with CO or CO ₂ in aqueous solution catalysed by vanadium complexes," <i>Chem. Commun.</i> , 1998 1885-1886	
	11	PATRICIA M. REIS, JOSE ARMANDO L. SILVA, JOAO J.R. FRAUSTO DA SILVA and ARMANDO J. L. POMBEIRO, "Amavadin as a catalyst for the peroxidative halogenation, hydroxylation and oxygenation of alkanes and benzene," <i>Chem. Commun.</i> , 2000, 1845-1846	

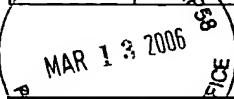
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		Filing Date	November 4, 2005
		First Named Inventor	Armando Pombeiro, et al.
		Group Art Unit	1621
		Examiner Name	Unknown
Use as many sheets as necessary)	Attorney Docket Number	10866/004	
Sheet 34 of 3			



OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

Examiner Initials	No. 1	Include name of the author (in CAPITAL LETTES), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	12	PATRICIA M. REIS, JOSE A. L. SILVA, ANTONIO F. PALAVRA, JOAO J. R. FRAUSTO DA SILVA, TSUGIO KITAMURA, YUZO FUJIWARA, and ARMANDO J. L. POMBEIRO, "Single-Pot Conversion of Methane into Acetic Acid in the Absence of CO and with Vanadium Catalysts Such as Amavadine," <i>Agnew. Chem. Int. Ed.</i> 2003, 42, No. 7 821-823	
	13	YUKI TANIGUCHI, TAIZO HAYASHIDA, HIROYASU SHIBASAKI, DONGGUO PIAO, TSUGIO KITAMURA, TEIZO YAMAJI, and YUZO FUJIWARA, "Highly Efficient Vanadium-Catalyzed Transformation of CH ₄ and CO to Acetic Acid," <i>Org. Lett.</i> , Vol. 1, NO. 4, 1999 557-559	

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